

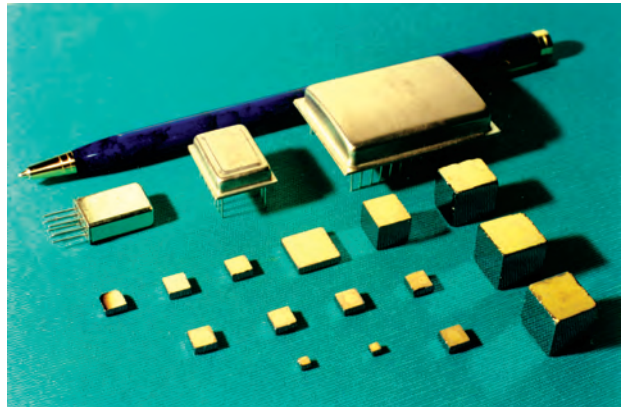
X-RAY AND GAMMA RADIATION DETECTORS

Areas of Application

The detectors are used for dosimetry and monitoring of X-ray and gamma radiation in nuclear energy, geology, ecology, medicine, and scholarly research

Specification

Detector for measurement of gamma radiation exposure dose rate within a wide range (from 0.1 $\mu\text{Sv/h}$ to 10 Sv/h) with a high effectiveness of X-ray and gamma radiation counting ($\sim 30,000$ pulses/ μSv);
 Detector for measurement of high-energy gamma fields during emergency operation of nuclear power plant with a dose rate from 0.5 Sv/h to about 100 Sv/h, an analog sensitivity of $\sim 2 \times 10^{-3}$ C/Sv, and a high resistance to radiation (up to 10^5 Sv);
 Detector for radionuclide control and detection is used for spectrometry of X-ray and gamma radiation within the energy range from 5 keV to 2 MeV, with an energy resolution of 5% (662 keV); the device enables to qualitatively estimate the contribution of individual radionuclides



CdZnTe crystals and detectors



CdZnTe detectors

Stage of Development. Suggestions for Commercialization

IRL6, TRL6

The products are manufactured and sold upon request

Advantages

The sensors have no analogues in Ukraine; can operate at a room temperature

IPR Protection

IPR1

Contact Information

Serhii H. Pugach, Kharkov Institute of Physics and Technology National Research Center of the NAS of Ukraine; +38 057 335 68 43, +38 057 349 10 49, e-mail: pugach@kipt.kharkov.ua